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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,234	09/29/2003	Nick M. Mitchell	YOR920030485	1886

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MIAMI, FL 33143

EXAMINER
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PADMANABHAN, KAVITA

ART UNIT	PAPER NUMBER
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2161

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/674,234	Applicant(s) MITCHELL, NICK M.	
	Examiner Kavita Padmanabhan	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Status of Claims*

1. Claims 1, 6, 10, 12, and 13 have been amended.
2. Claim 2 has been canceled.
3. Claims 1 and 3-13 are pending.
4. Claims 1 and 3-13 are rejected.

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1 and 3-13** are rejected under 35 U.S.C. 102(b) as being anticipated by **Bournas et al.** (US 6,061,679, hereinafter “Bournas”).

In regards to **claim 1**, **Bournas** teaches a method of determining how a region of a data structure in an application evolves, comprising:

- periodically traversing selected subgraphs of the region in the application while the application is running (**Bournas**, col. 4, lines 45-47, 61-65, col. 7, line 66 – col. 8, line 6, col. 8, lines 39-66 – searching the data structure to determine the placement of the new key mask whenever an add request is made constitutes traversing subgraphs of a data structure periodically);

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- locating structural changes in the subgraphs (**Bournas, col. 8, lines 39-66 – searching the data structure to locate where to place the new key mask constitutes locating structural changes to the subgraphs, in that wherever the key mask is to be added is located and a change is made to that particular subgraph**); and
- using these structural changes to describe, characterize, and identify changes to the region as a whole (**Bournas, col. 7, line 66 – col. 8, line 6 – the depicted changes to the subgraphs, for example an addition, describe, characterize, and identify changes in the data structure**) and
- reporting the changes to the region to an analysis agent (**Bournas, col. 9, lines 12-13, Fig. 4b, step 430**).

In regards to **claim 3, Bournas** teaches the method of claim 1 used to detect one of the following changes to a region: additions to a region; removals from a region; and internal restructuring within a region (**Bournas, col. 8, lines 5-6**).

In regards to **claim 4, Bournas** teaches the method of claim 1 wherein the selected subgraphs to traverse are derived by

- computing the region key for the constituents of the data structure (**Bournas, col. 8, lines 39-66**); and
- identifying the unique set of paths from owner proxy to change proxy as the set of traversals (**Bournas, col. 8, lines 39-66**).

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In regards to **claim 5**, **Bournas** teaches the method of claim 4 wherein the traversals are shortened by

- identifying a subpath of the path which is unlikely to change as the region evolves (**Bournas**, col. 8, lines 39-66 – if receive a request to add a key mask, which would be located at a particular subpath, the other subpaths are therefor unlikely to change, since they are not the target of the change); and
- trimming the path to exclude the parts of the path which are unlikely to change (**Bournas**, col. 8, lines 39-66 – since the subpath leading to where the change is made is traversed, the other subpaths are logically trimmed/excluded).

In regards to **claim 6**, **Bournas** teaches the method of claim 1 wherein determining how a region of a data structure in the application evolves is a continuous and adaptive process (**Bournas**, col. 4, lines 45-47, col. 7, line 67 – col. 8, line 2).

In regards to **claim 7**, **Bournas** teaches the method of claim 6 wherein the process is made continuous and adaptive by

- identifying a set of desired updates (**Bournas**, col. 8, lines 5-6); and
- adjusting the period in between traversals based on whether the desired updates have been witnessed (**Bournas**, col. 7, line 66 – col. 8, line 6 – the traversals occur when a change is made).

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In regards to **claim 8, Bournas** teaches the method of claim 6 wherein the process is made continuous and adaptive by

- identifying a set of desired updates (**Bournas, col. 8, lines 5-6**); and
- adjusting the frequency of sampling any one traversal based on whether that traversal has detected desired updates (**Bournas, col. 7, line 66 – col. 8, line 6, col. 8, lines 39-66**).

In regards to **claim 9, Bournas** teaches the method of claim 6 wherein the process is made continuous and adaptive by implementing one of the following procedures based on the result of performing a traversal: adding new traversals; removing existing traversals; and modifying the path of existing traversals (**Bournas, col. 8, lines 39-66**).

In regards to **claim 10, Bournas** teaches the method of claim 1 further comprising updating qualitative characterizations of the regions under analysis based on structural changes to the regions as a whole (**Bournas, col. 8, lines 39-66, col. 9, lines 40-45 – updating the subgraphs based on the data structure constitutes updating qualitative characterizations**).

In regards to **claim 11, Bournas** teaches the method of claim 1 further comprising updating quantitative characterizations of the regions under analysis based on structural changes to the regions as a whole (**Bournas, col. 8, lines 39-66, col. 9, lines 40-45 – updating the subgraphs based on the data structure constitutes updating quantitative characterizations as depicted by numbers of subgraphs, keymasks, etc, which are quantitative measures**).

**Claims 12 and 13** are rejected with the same rationale given for claim 1.

***Response to Amendment***

7. Applicant's amendments filed 10/27/06 with respect to the drawing objections have been fully considered. The objections to the drawings have been withdrawn accordingly.

8. Applicant's amendments filed 10/27/06 with respect to the specification objections have been fully considered. The objections to the specification have been withdrawn accordingly.

9. Applicant's amendments filed 10/27/06 with respect to the claim objections have been fully considered. The objections to the claims have been withdrawn accordingly.

10. Applicant's amendments filed 10/27/06 with respect to the 35 USC 112, 2<sup>nd</sup> paragraph rejections have been fully considered. The corresponding rejections have been withdrawn accordingly.

11. Applicant's amendments filed 10/27/06 with respect to the 35 USC 101 rejections have been fully considered. The corresponding rejections have been withdrawn accordingly.

***Response to Arguments***

12. Applicant's arguments filed 10/27/06 with respect to the prior art applied to the claims have been fully considered but they are not persuasive.

The applicant argues at page 11 of applicant's remarks that Bournas does not teach periodically traversing selected subgraphs of the region in the application while the application is running, specifically because Bournas allegedly does not teach subgraphs. The examiner respectfully disagrees and refers the applicant to the rejection above. To clarify, the examiner

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first asserts that Bournas teaches a data structure and sub-data structures (Bournas, col. 4, lines 45-47, 61-65). The examiner further asserts that traversing the tree data structure via paths, as taught by Bournas, can be interpreted as traversing subgraphs, in that different portions or subsections of the tree are traversed, which constitute sub-sections or sub-graphs of the tree (Bournas, col. 8, lines 39-66).

The applicant argues at page 11 of applicant's remarks that Bournas does not teach locating structural changes in the subgraphs. The examiner respectfully disagrees and refers the applicant to the stated rejection above. To clarify, the examiner asserts that searching the data structure of Bournas to locate where to place the new key mask constitutes locating structural changes to the subgraphs, in that wherever the key mask is to be added is located and a change is made to that particular subgraph (Bournas, col. 8, lines 39-66).

The applicant argues at page 12 of applicant's remarks that Bournas does not teach using these structural changes to describe, characterize, and identify changes to the region as a whole. The examiner respectfully disagrees and refers the applicant to the stated rejection above. To clarify, the examiner asserts that the depicted changes to the subgraphs in Bournas, for example an addition, describe, characterize, and identify changes in the data structure, and that these do indeed pertain to a region, or an area, of the data structure (Bournas, col. 7, line 66 – col. 8, line 6).

The applicant argues at page 12 of applicant's remarks that Bournas does not teach reporting the changes to the region to an analysis, however the applicant does not appear to have provided reasons as to why the teachings of Bournas do not meet the language of this limitation.



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The examiner respectfully asserts that Bournas does indeed teach reporting the changes to the region to an analysis agent (Bournas, col. 9, lines 12-13, Fig. 4b, step 430).

***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kavita Padmanabhan** whose telephone number is **571-272-8352**. The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kavita Padmanabhan  
Assistant Examiner  
AU 2161

*K.P.*  
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January 11, 2007

*[Signature]*  
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